

MISCELLANEOUS.

Note on the Intelligence of the American Turret-Spider.

THE Rev. Dr. H. C. McCook exhibited nests of *Tarentula arenicola*, Scudder, a species of ground-spider of the family Lycosidæ, popularly known as the Turret-Spider. These nests, in natural site, are surmounted by structures which quite closely resemble miniature old-fashioned chimneys, composed of mud and crossed sticks, as seen in the log cabins of pioneer settlers. From half an inch to one inch of the tube projects above ground, while it extends straight downwards twelve or more inches into the earth. The projecting portion or turret is in the form of a pentagon, more or less regular, and is built up of bits of grass, stalks of straw, small twigs, &c. laid across each other at the corners. The upper and projecting parts have a thin lining of silk. Taking its position just inside the watch-tower, the spider leaps out and captures such insects as may come in its way. The speaker has found nests of the species at the base of the Allegheny Mountains near Altoona, and in New Jersey on the seashore. In the latter location the animal had availed itself of the building-material at hand, by forming the foundation of its watch-tower of little quartz pebbles, sometimes producing a structure of considerable beauty. In this sandy site the tube is preserved intact by a delicate secretion of silk, to which the particles of sand adhere. This secretion scarcely presents the character of a web-lining, but has sufficient consistency to hold aloft a frail cylinder of sand and silk, when the sand is carefully scooped away from the site of the nest.

A nest recently obtained from Vineland, N. J., furnished an interesting illustration of the power of these araneads to intelligently adapt themselves to varying surroundings, and to take advantage of circumstances with which they certainly could not have been previously familiar. In order to preserve the nest, with a view to study the life-history of its occupant, the sod containing the tube had been carefully dug up and the upper and lower openings plugged with cotton. Upon the arrival of the nest in Philadelphia the plug guarding the entrance had been removed, but the other had been forgotten and allowed to remain. The spider, which still inhabited the tube, immediately began removing the cotton at the lower portion, and cast some of it out. But, guided apparently by its sense of touch to the knowledge that the soft fibres of the cotton would be an excellent material with which to line its tube, it speedily began putting it to that use, and had soon spread a soft smooth layer over the inner surface and around the opening. The nest, in this condition, was exhibited and showed the interior to be padded for about $\frac{1}{4}$ inches from the summit of the tower. Dr. McCook pointed out the very manifest inference that the spider must for the first time have come in contact with such a material as cotton, and had immediately utilized its new experience by substituting the soft fibre for the ordinary silken lining, or rather adding it thereto.—*Proc. Acad. Nat. Sci. Philad.*, June 19, 1883, p. 131.